tion the increased blood flow will be present day and night, and will be more marked and far more persistent than that obtained by any other means known to the writer. It may be the important factor in establishing a satisfactory collateral circulation to a failing extremity which might otherwise soon progress to ulceration or gangrene. It should be done early, before the vasoconstrictor element has decreased with the progress of the disease. The writer performed lumbar ganglionectomy on such a patient four years ago, the temperature of whose desympathectomized extremities is still maintained at the maximum level. Less satisfactory results are obtained in the upper extremities. The operation requires only about one week hospitalization and carries, in trained hands, practically no mortality. Although the circulation can thus be unequivocally increased, only about half the number of patients are relieved of severe claudication; yet the operation gives them more insurance against the serious complications of the disease than any other procedure.

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STRABISMUS IN CHILDREN

Dr. S. A. Durr's paper,[1] read by him before the Eye Section of the California State Medical Association in 1936, again draws our attention to the problem of strabismus in children.

Samuel Butler, in Erewhon, described a civilization where medical knowledge is so advanced that sickness is a crime. When people are sick, instead of sending them to a hospital, they are sent to jail, because there is no excuse for ill health. The time will come when somebody will be imprisoned whenever there is a child who has strabismus. Whether the parents or the attending ophthalmologist will be incarcerated in the Bastille for such a heinous crime as the neglect of a child with strabismus, remains to be seen. Probably both the parents and the attending ophthalmologist will be condemned.

The reduction of the number of children seen with strabismus is best illustrated in the case of the school children of San Francisco. In 1929 I reported the summary of eye examinations, personally conducted, of over fifteen thousand children.[2] The number of children found with uncorrected strabismus of varying degrees was 2.4 per cent. Since that time the number of children with strabismus seen in the schools of San Francisco has been greatly reduced. It is now possible to examine the children in a large school and not find one uncorrected case of strabismus. It is my impression that the number of children with strabismus in San Francisco is now less than one per cent.

This has been accomplished through two factors:

1. The education of the school teachers and the follow-up work by the nurses of the San Francisco Department of Public Health of all cross-eyed children. Through them the parents have been educated to the necessity of early medical attention, which a child with strabismus needs. Indirectly the medical profession, especially the pediatrician, has become aware of the fact that children do not "outgrow a squint." The school nurse and the physician realize that if glasses do not promptly correct a squint, operation is indicated, and the age of the child is no contraindication to an eye operation.

2. The popularization of O'Connor's operation for squint makes it possible to operate on a child at any age. Doctor Durr has fully covered the advantages of O'Connor's operation. From the parents' point of view—and after all it is the parents who have to be persuaded as to the necessity of the operation—the fact that hospitalization can be reduced, if necessary, to only twenty-four hours, is one of the most important factors in obtaining permission to operate early on young children. Although I am not so old, I can still remember the time when, after doing an advancement, it was necessary to cover both eyes, use a starch bandage, and keep the child from ten to fourteen days in the hospital. The average age of the last forty strabismus cases operated on at the Stanford University Eye Clinic, with the O'Connor method, was nine and one-half years. Ten years ago the average age of a child operated on for a squint was around fourteen years. It is not necessary for me to emphasize the importance of early operative procedure in squint cases.

Doctor Durr's paper is of great importance in that it again draws the attention of the medical profession to the advantages of the O'Connor operation and its importance in the reduction of the number of uncorrected cases of strabismus.

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CREEPING ANOXEMIA IN BRONCHOPNEUMONIA

A positive correlation has been noted by Stadie, Binger, Barach, Hill, Campbell, Poulton, and other investigators, between anoxemia and mortality in pneumonia. If anoxia is a contributory cause of death, it is so by its action on the vital centers—particularly myocardium, medullary and other nerve centers. The nervous system being particularly sensitive to oxygen want, symptoms usually appear when the oxygen unsaturation of the arterial blood drops to 15 per cent.

Evidence of anoxemia, manifested either by diffuse cyanosis, characterized by leaden pallor of the face or by nondiffuse cyanosis with bluish tint of fingernails, chin, lips, ear, cheek, may be apparent so late that valuable time has been lost before oxygen therapy becomes available.

Stadie has shown that O_2 unsaturation of the arterial blood, over 30 per cent, generally results fatally. A higher degree of unsaturation occurs in bronchopneumonia than in the lobar type.

In some of the bronchopneumonia patients in the recent epidemic, symptoms referable to the nervous system included: restlessness, sleeplessness, talkativeness, apprehension, and increased

1 O'Connor Cinch-Operation Technique, *American Journal of Ophthalmology*, Vol. 20, pp. 178-180, February, 1937.

2 Eye Examination of School Children, *Journal of the American Medical Association*, Vol. 93, pp. 911-916, September 21, 1929.

nervous tension, with spasticity of the voluntary muscles. The mind may be lucid, mental impressions being clear-cut and accompanied by actual euphoria. Tingling and hypoesthesia in the extremities were often pronounced, and should the anoxia continue unrelieved, are replaced by numbness and marked muscular weakness.

In adults the onset of either periodic, or shallow and rapid breathing is ominous. When there is no retention of CO_2 in the body, however, the patient may feel no distress and make no complaint, although in great danger from acute oxygen want. Because of the insidious development of the condition described, the term "creeping" anoxemia has been chosen.

Attempts to control the above symptoms by administration of barbiturates or opiates are contraindicated, as they tend to increase respiratory depression and the degree of anoxemia.

Although only a supportive measure in the management of the bronchopneumonia patient, on the other hand, early oxygen inhalation is invaluable.

Boothby's observation of a drop in temperature following a patient's admission to the oxygen chamber has been confirmed. It is noteworthy that, although oxygen often relieves restlessness, it may occasionally increase the restlessness of a patient, owing to recovery of the higher centers. To avoid this, the percentage of oxygen should be raised slowly, *e. g.,* from 3 to 6 liters per minute in one hour.

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HEMORRHAGE AND SHOCK INCIDENT TO CESAREAN SECTION

Cesarean section is in great part responsible for the prevalence of a high maternal mortality in this country. The triumphs of modern surgery, and particularly the safety and success of the present-day laparotomy, have given the profession, as well as the laity, a false sense of security so far as cesarean section is concerned. It is not fully realized that cesarean section carries the risks of laparotomy in general, plus the hazards of a most unphysiologic method of delivery.

The dangers of hemorrhage, shock and infection, which are common to most laparotomies, are multiplied manifold in the case of abdominal delivery. In a recent review of nine hundred cesarean sections performed in Iowa, Plass[1] found that the maternal mortality was 7 per cent. Forty-nine and three-tenths per cent of these deaths were due to sepsis, 19 per cent to toxemia, and 20.7 per cent to hemorrhage and shock. Hemorrhage, also, undoubtedly plays an important part as a cause of death in the fatalities ordinarily attributed to toxemia. Dieckmann and Daily[2] recently made accurate measurements of the blood loss incident to cesarean section at the Chicago Lying-In Hospital. They found that the quantity of blood lost ranged between 170 cubic centimeters and 1,410 cubic centimeters, the average being 546.7 cubic centimeters. In the hands of the occasional operator, this blood loss must, of course, be much greater.

Hemorrhage in cesarean section is undoubtedly due to the disturbance of the physiology of labor. It is a well-known fact that the uterine muscle is relatively insensitive to stimulation until the end of pregnancy. With the onset of labor there is an abrupt rise in the susceptibility of the uterus to mechanical stimuli, and to the influence of oxytocic drugs; this irritability increases during the progress of labor, and reaches its height during the course of the second stage. It seems, then, that it is distinctly unphysiologic to precipitate the third stage of labor on a uterine muscle which is unprepared even for the first stage. Hemorrhage, consequently, is to be expected when labor is eliminated, or terminated early in its course.

The above remarks are not presented as an argument in favor of cesarean section late in labor. It is, however, intended to point out that the wisdom of elective cesarean section is open to question, and that the burden of proof must be assumed by those who maintain that the best results are obtained when cesarean section is done at an "appointed time," rather than at the onset of labor.

The abrupt termination of the third stage is another radical departure from the normal. The incision in the uterus frequently encroaches on the placental site, especially in the classical section. It is, therefore, necessary to remove the placenta promptly in an effort to control the profuse bleeding from the incision, and from the coincident partial detachment of the placenta. This interference with the natural course of the third stage tends to cause hemorrhage in cesarean section, just as it does in vaginal delivery.

Shock in cesarean section is chiefly due to the following factors: general anesthesia, celiotomy, the sudden release of the amniotic fluid, the immediate delivery of the fetus and placenta, and the coincident unavoidable hemorrhage. Commonly associated obstetrical factors which further predispose to shock are exhaustion from prolonged labor, toxemia, antepartum hemorrhage, and overdistention of the uterus due to multiple pregnancy or polyhydramnios.

The foregoing review emphasizes the facts that cesarean section is often complicated by serious hemorrhage and shock, and that the hazard due to these complications can be lessened by a careful selection of cases for section, and by a close adherence to well-established obstetrical and surgical principles. Abdominal delivery is, however, fundamentally an unphysiologic procedure, and no care and skill in its performance can fully compensate for the profound disturbance created in the mechanism of labor. Hemorrhage and shock, therefore, should be anticipated in all cases of cesarean section, and adequate preparations be made to meet these emergencies before surgery is undertaken.

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1 Plass, E. D.: Survey of Cesarean Sections in Iowa for Years 1930, 1931, and 1932, Preliminary Report, J. Iowa M. Soc., 25:586 (Nov.), 1935.

2 Dieckmann, William J., and Daily, Edwin F.: Blood Loss During Cesarean Section, Am. J. Obst. and Gynec., 30:221 (Aug.), 1935.